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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/581,804	06/02/2006	Alexander Lampe	853563.431USPC	7272
38106 7590 06/12/2009 SEED INTELLECTUAL PROPERTY LAW GROUP PLLC 701 FIFTH AVENUE, SUITE 5400 SEATTLE, WA 98104-7092			EXAMINER GANNON, LEVI	
			ART UNIT 2817	PAPER NUMBER
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/581,804	LAMPE ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	LEVI GANNON	2817	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 02 June 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7-11 is/are rejected.
- 7) ☒ Claim(s) 6 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 June 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>06/02/06</u> .  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Claim Objections***

**Claims 1-11 are objected to** because of the following informalities: The article "A" should be added to the beginning of claims 1-11. Appropriate correction is required.

### ***Specification***

**The disclosure is objected to** because of the following informalities: Lines 19-20 on page 9 of the specification read in part, "*a digital-to-analog-converter 32 for converting the output signal F into a digital signal*". If element 32 outputs an analog signal as described in the section of the specification discussed above, the element 32 cannot be a digital to analog converter. Either element 32 is an analog to digital converter or element 32 outputs an analog signal.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 101 and 112***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

**Claim 11 is rejected under 35 U.S.C. 101** because the claimed invention is not supported by either a specific and substantial asserted utility or a well established utility.

MPEP 2106.01 requires that a computer (processor) program be embodied on sufficient structure to enable its functionality to be realized. The absence of any structure capable of executing the method steps stored on the computer (processor) program of claim 11 renders the structure of the claim insufficient to support the functionality.

**Claim 11 is also rejected under 35 U.S.C. 112, first paragraph.** Specifically, since the claimed invention is not supported by either a specific and substantial asserted utility or a well established utility for the reasons set forth above, one skilled in the art clearly would not know how to use the claimed invention.

No new matter should be added.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

**Claims 1-3 and 8-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Wilson (US 5,602,868).**

Regarding claims 1 and 9-11, Wilson discloses a modulator system (figure 2) comprising a first modulator (FM) for modulating an input signal (4-Level Data) according to a first modulation scheme (frequency modulation) and a second modulator (AM) for modulating the input signal (4-Level Data) according to a second modulation scheme (amplitude modulation), which modulator system comprises a compensator (219) for combining at least one modulator signal (chosen by switch 209) with at least one waveform ( $e^{j\omega t}$ ) for compensating at least one signal parameter (frequency or amplitude modulation) of an output signal (from 209) for discontinuities resulting from a modulation scheme change (The signal  $e^{j\omega t}$  provides modulation to the signal output from switch 209 regardless of the type of modulation previously applied (FM or AM). No discontinuities from a modulation scheme change (AM to FM or vice versa) will be present after modulation is applied with signal  $e^{j\omega t}$  ).

As for claim 2, Wilson discloses at least one pulse shaper (filter 217 shapes the AM pulse.), with the compensator (219) being located after the pulse shaper (217).

As for claim 3, Wilson teaches wherein the compensator (219) comprises a multiplier (see figure 2) for multiplying the modulator signal (from 209) in the form of at least one pulse shaped modulated signal (shaped through FM or AM) with the waveform ( $e^{j\omega t}$ ) in the form of a complex valued waveform ( $e^{j\omega t}$  is a complex valued waveform), with the at least one signal parameter comprising an amplitude and a phase (Amplitude modulation from 217 and phase modulation from phase modulator 207).

Regarding claim 8, Wilson teaches a transmitter (200) comprising a modulator system (figure 2) comprising a first modulator (FM) for modulating an input signal (4-Level Data) according to a first modulation scheme (frequency modulation) and a second modulator (AM) for modulating the input signal (4-Level Data) according to a second modulation scheme (amplitude modulation), which modulator system comprises a compensator (219) for combining at least one modulator signal (chosen by switch 209) with at least one waveform ( $e^{j\omega t}$ ) for compensating at least one signal parameter (frequency or amplitude modulation) of an output signal (from 209) for discontinuities resulting from a modulation scheme change (The signal  $e^{j\omega t}$  provides modulation to the signal output from switch 209 regardless of the type of modulation previously applied (FM or AM). No discontinuities from a modulation scheme change (AM to FM or vice versa) will be present after modulation is applied with signal  $e^{j\omega t}$ . ); which transmitter (200) further comprises a power amplifier (Wilson teaches the use of power amplifiers in the transmitters of figure 1) for amplifying the output signal.

**Claims 1, 4, 5, and 7-11 are rejected under 35 U.S.C. 102(e) as being anticipated by Khoini-Poorfard (US 6,865,235).**

Regarding claims 1 and 9-11, Khoini-Poorfard discloses a modulator system (see figures 1-3 and Col. 4, lines 9-27) comprising a first modulator (fig. 1A) for modulating an input signal (101) according to a first modulation scheme (EDGE 8PSK) and a second modulator (figs. 2-3) for modulating the input signal (201-301) according to a second modulation scheme (GMSK), which modulator system comprises a

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compensator (104, 255, 304) for combining at least one modulator signal with at least one waveform (complex waveforms  $e^{j3\pi/8}$  and  $e^{j\pi/2}$ ) for compensating at least one signal parameter (104 and 304 are phase rotators while 255 is an amplitude modulator) of an output signal (105, 303 for example) for discontinuities resulting from a modulation scheme change (The amplitude and phase are adjusted so that the two modulation schemes can coexist without any discontinuities. For example see col. 5, lines 14-15.).

As for claim 4, Khoini-Poorfard teaches at least one pulse shaper (106, 260, 270, 306), with the compensator (104, 255, 304) being located before the pulse shaper (106, 260, 270, 306).

As for claim 5, Khoini-Poorfard teaches wherein the compensator (104, 255, 304) comprises at least one multiplier (255; also see multipliers in phase rotators 104 and 304) for multiplying the modulator signal in the form of at least one modulated signal with the waveform ( $e^{j3\pi/8}$  and  $e^{j\pi/2}$ ), with the at least one signal parameter comprising an amplitude (255 is an amplitude modulator).

Pursuant to claim 7, Khoini-Poorfard discloses wherein the first modulation scheme is a Phase Shift Keying modulation (see 102 in figure 1A) scheme and the second modulation scheme is a Gaussian Minimum Shift Keying modulation scheme (For example, see col. 7, lines 1-2/).

As for claim 8, Khoini-Poorfard discloses a transmitter (Col. 4, line 65- col. 5, line 3) comprising a modulator system (see figures 1-3 and Col. 4, lines 9-27) comprising a first modulator (fig. 1A) for modulating an input signal (101) according to a first modulation scheme (EDGE 8PSK) and a second modulator (figs. 2-3) for modulating

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the input signal (201-301) according to a second modulation scheme (GMSK), which modulator system comprises a compensator (104, 255, 304) for combining at least one modulator signal with at least one waveform (complex waveforms  $e^{j3\pi/8}$  and  $e^{j\pi/2}$ ) for compensating at least one signal parameter (104 and 304 are phase rotators while 255 is an amplitude modulator) of an output signal (105, 303 for example) for discontinuities resulting from a modulation scheme change (The amplitude and phase are adjusted so that the two modulation schemes can coexist without any discontinuities. For example see col. 5, lines 14-15.); which transmitter further comprises a power amplifier (Col. 4, line 65- col. 5, line 3) for amplifying the output signal.

**Claims 1, 4, 7, and 9-11 are rejected under 35 U.S.C. 102(e) as being anticipated by Piirainen (US 6,658,067).**

Regarding claim 1 and 9-11, Piirainen, discloses a modulator system (figures 5 and 6) comprising a first modulator (502 in figure 5 and detailed in figure 6) for modulating an input signal (from 504) according to a first modulation scheme (8-PSK) and a second modulator (500) for modulating the input signal (from 504) according to a second modulation scheme (GMSK), which modulator system comprises a compensator (602) for combining at least one modulator signal (from 600) with at least one waveform ( $e^{j\pi k/4}$ ) for compensating at least one signal parameter (phase; col. 5, lines 1-20) of an output signal (from 600) for discontinuities resulting from a modulation scheme change (Col. 5, lines 1-20).



As for claim 4, Piirainen teaches at least one pulse shaper (604), with the compensator (602) being located before the pulse shaper (604).

Pursuant to claim 7, Piirainen teaches the first modulation scheme is a Phase Shift Keying modulation scheme (502 is a PSK modulator) and the second modulation scheme is a Gaussian Minimum Shift Keying modulation scheme (500 is a GMSK modulator).

### ***Allowable Subject Matter***

**Claim 6 is objected to** as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. (Pending correction of the objection set forth above.)

The following is a statement of reasons for the indication of allowable subject matter: None of the cited prior art references teach or suggest: "*... wherein each modulator comprises at least one multiplier for multiplying a mapped input signal with a complex valued signal, with the compensator comprising at least one multiplier for multiplying the modulator signal in the form of the complex valued signal with the waveform in the form of a complex valued phase offset, with the at least one signal parameter comprising a phase.*", as set forth in claim 6.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The cited references not relied upon in this Office Action teach transmitters operating with multiple modulation schemes.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LEVI GANNON whose telephone number is (571)272-7971. The examiner can normally be reached on Monday-Friday 9:30AM-6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal can be reached on (571) 272-1769. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Levi Gannon/  
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/Robert Pascal/

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